

## Claims

- [c1] A semisubmersible trimaran comprising an upper deck structure supported on a longitudinal center hull and a pair of column-stabilized, longitudinal outrigger pontoons laterally spaced from the center hull on opposite sides thereof.
- [c2] The semisubmersible trimaran of claim 1 wherein the upper deck structure has a thickness of at least about 20 meters.
- [c3] The semisubmersible trimaran of claim 1 further comprising a superstructure on an upper surface of the deck structure.
- [c4] The semisubmersible trimaran of claim 3, further comprising a runway on the upper surface of the deck structure.
- [c5] An afloat seabase, comprising an end-to-end assemblage of a plurality of the semisubmersible trimarans of claim 1.
- [c6] The semisubmersible trimaran of claim 1 further comprising a ballast control system to adjust a draft of the

trimaran between a relatively shallow transit draft and a relatively deep operating draft, and to regulate trim and list of the trimaran.

- [c7] The semisubmersible trimaran of claim 6 wherein the operating draft is from about 180 to 220 percent of the transit draft.
- [c8] The semisubmersible trimaran of claim 6 wherein the center hull comprises a full waterplane area of the hull at the transit draft and a reduced waterplane area of the hull at the operating draft.
- [c9] The semisubmersible trimaran of claim 8 wherein the reduced waterplane area of the center hull is from 40 to 65 percent of the full waterplane area of the hull.
- [c10] The semisubmersible trimaran of claim 6 wherein a full waterplane area of the outrigger pontoons at the transit draft is from 3 to 5 times a reduced waterplane area of the outrigger support columns at operating draft.
- [c11] The semisubmersible trimaran of claim 6 wherein a total reduced waterplane area of the trimaran at operating draft is from 35 to 60 percent of a total full waterplane area of the trimaran at transit draft.
- [c12] The semisubmersible trimaran of claim 11 wherein the

outrigger support columns include columns spaced fore and aft extending upright from the outrigger pontoons to the upper deck structure.

- [c13] The semisubmersible trimaran of claim 1 further comprising a transit propulsion drive on the center hull selected from propeller screws, thruster pods, and combinations thereof.
- [c14] The semisubmersible trimaran of claim 1 further comprising a plurality of dynamic positioning drives on the pontoons.
- [c15] The semisubmersible trimaran of claim 14 wherein the dynamic positioning drives are retractable for transit streamlining.
- [c16] The semisubmersible trimaran of claim 1 comprising a marine docking facility on the center hull.
- [c17] The semisubmersible trimaran of claim 1 comprising a marine berthing facility adjacent at least one of the pontoons.
- [c18] The semisubmersible trimaran of claim 1 wherein an operating displacement is from about 120 to 200 percent of a transit displacement, and an available operating deadweight is at least twice an available transit dead-

weight.

- [c19] The semisubmersible trimaran of claim 1 wherein the upper deck structure has a length from about 1.5 to 2.1 times a width thereof.
- [c20] The semisubmersible trimaran of claim 1 wherein a length of the center hull is from about 150 to 200 percent of a length of the outrigger pontoons.
- [c21] A semisubmersible trimaran, comprising:
  - (a) an upper deck structure supported on a longitudinal center hull and first and a second outrigger pontoons, wherein the outrigger pontoons each depend from a plurality of upright columns and are laterally spaced from the center hull on opposite sides thereof;
  - (b) a ballast control system to adjust a draft and to regulate trim and list of the trimaran;
  - (c) full and reduced waterplane areas at transit and operating drafts, respectively, of the center hull and the outrigger pontoons and columns, wherein the reduced waterplane area of the center hull comprises from 40 to 65 percent of the full waterplane area of the hull, and the full waterplane area of the outrigger pontoons comprises from 3 to 5 times the reduced waterplane area of the columns.

[c22] A semisubmersible trimaran, comprising:

- (a) an upper deck structure supported on a longitudinal center hull;
- (b) a first longitudinal outrigger pontoon and a second longitudinal outrigger pontoon, said first and second outrigger pontoons laterally spaced from the center hull on opposite sides thereof, wherein the outrigger pontoons are stabilized by a plurality of columns connected to the deck structure;
- (c) a transit propulsion drive on the center hull selected from propeller screws, thruster pods, and combinations thereof; and
- (d) a plurality of dynamic positioning drives on the pontoons.

[c23] The semisubmersible trimaran of claim 22, further comprising a ballast control system to adjust a draft of the trimaran between a relatively shallow transit draft with a full waterplane area and a relatively deep operating draft with a reduced waterplane area comprising from 35 to 60 percent of the full waterplane area.

[c24] A semisubmersible trimaran, comprising:

- (a) an upper deck structure supported on a longitudinal center hull;
- (b) a pair of column-stabilized, longitudinal outrigger

pontoons laterally spaced from the center hull on opposite sides thereof;

(c) a ballast control system to adjust a draft of the trimaran between a relatively shallow transit draft with a full waterplane area and a relatively deep operating draft with a reduced waterplane area comprising from 35 to 60 percent of the full waterplane area; and

(d) a marine docking facility below the upper deck structure on the center hull or one of the outrigger pontoons accessible at the operating draft.

[c25] A semisubmersible trimaran, comprising:

(a) a central hull with a bow, a stern, and side walls providing a series of buoyancy compartments;

(b) a deck structure supported on the central hull, said deck structure having fore and aft portions, port and starboard wings, and top and bottom surfaces defining a storage space therebetween;

(c) first and second pontoons each connected to the deck structure by a plurality of columns, said first pontoon laterally positioned beneath the port wing, said second pontoon laterally positioned beneath the starboard wing;

(d) liquid storage compartments in the central hull and pontoons; and

(e) a ballast control system comprising ballast tanks in the hull and pontoons to control a draft of the trimaran between a relatively shallow transit draft and a relatively deep operating draft.

- [c26] The semisubmersible trimaran of claim 25, comprising a full waterplane area at the transit draft and a reduced waterplane area at the operating draft comprising from 35 to 60 percent of the full waterplane area.
- [c27] The semisubmersible trimaran of claim 25, further comprising a runway to launch and land fixed wing aircraft on the upper deck structure.
- [c28] An afloat seabase comprising a plurality of semisubmersible trimarans according to claim 27 connected end-to-end to align the runways.